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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
GOLIGHTLY, ERIC WAYNE	
ART UNIT	PAPER NUMBER
1792	
MAIL DATE	DELIVERY MODE
06/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,604	PARK, SEOK KYU	
	Examiner	Art Unit	
	Eric Golightly	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *26 March 2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-35 are pending in the application. Amendments to the specification and claims 7, 21, 22, 24-27 and 31 in the response dated March 12, 2008, are acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 8-18 and 20-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,770,376 to Sharpe (hereinafter "Sharpe").

Sharpe teaches a method for sanitizing a clothes washer (abstract) and discloses the steps of: supplying water to a tub (col. 4, lines 31-36); setting a timer (col. 5, lines 3-8), or soaking contaminants for a predetermined time period; and draining water from the tub (col. 5, line 65 to col. 6, line 6).

Regarding claims 1-5, Sharpe does not explicitly teach that no laundry is to be introduced into the tub, permeating water into the contaminants, removing contaminants stuck to a surface of the tub, or separating soaked contaminants from the surface of the tub. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to supply water without laundry in order to prevent cross-contamination

from the tub to the laundry or vice versa, as per the Sharpe teaching. As to permeating water into the contaminants, removing contaminants stuck to the surface of the tub and separating soaked contaminants from the surface of the tub, these limitations are inherent in the Sharpe method because the water supplied to the tub will permeate, remove and separate contaminants.

Further regarding claims 2-5 and 11, Sharpe does not explicitly teach supplying water to the surface of the tub during draining thereby preventing resticking of the contaminants to the surface of the tub. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to supply water during draining in the method as per the Sharpe teaching, including during a later half of the draining step, because this is a conventional technique for enhancing the cleaning process (see, for example, the abstract and Fig. 9 of US 5,167,722 to Pastryk, et al. which teaches a spray rinse process for an automatic washer including a rinsing process during the draining step).

Further regarding claims 3-5, Sharpe discloses spraying water to the tub, which reads on supplying water to the tub for a second time and rinsing the surface of the tub (col. 5, lines 46-52) and draining water from the tub for a second time (col. 6, lines 37 and 38).

Further regarding claims 4 and 5, Sharpe does not explicitly teach supplying water to the surface of the tub during the step of draining water from the tub for a second time thereby preventing resticking of contaminants to the surface of the tub. However, it would have been obvious to one of ordinary skill in the art at the time of the

invention to repeat the step of supplying water to the surface of the tub during the step of draining water from the tub for a second time in the method as per the Sharpe teaching in order enhance the cleaning process. Supplying water a second time will prevent sticking of contaminants to the tub surface.

Regarding claims 5 and 14, it would have been obvious to one of ordinary skill in the art at the time of the invention to use high speed rotation in the method as per the Sharpe teaching to remove water from the surface of the tub because high speed rotation is a conventional technique for water removal (see, for example, US 2,588,774 to Smith at col. 8, lines 5-8, which teaches a washing machine wherein clothes are spun at high speed to remove rinse water).

Regarding claim 6, Sharpe discloses rotating the tub while water is supplied to the tub (col. 4, lines 25-30).

Regarding claims 8, Sharpe discloses rotating a basket, or tub (col. 4, lines 28-30), which will form a water circulation. It is noted that water will be permeating contaminants while rotating the tub per Sharpe.

Regarding claims 9, 32 and 35, Sharpe discloses rotating a basket, or tub, at low speed (col. 4, lines 25-30) but does not explicitly teach rotating the tub at high speed. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use high speed rotation in the method as per the Sharpe teaching in order to provide a greater driving force for permeation.

Regarding claim 12, Sharpe does not explicitly teach rotating the tub while water is supplied to the tub during the step of supplying water to the tub surface. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to rotate the tub while thus supplying water to the tub surface in the method as per the Sharpe teaching for enhancing the comprehensive tub surface area coverage and removal of water.

Regarding claim 13, Sharpe discloses spraying water to the surface of the tub (col. 5, lines 46-52).

Regarding claims 15-17, Sharpe discloses introducing chlorine bleach, or a halide group bleaching agent, into a dispensing cup (Fig. 1, ref. 150 and col. 4, lines 11-18) which is in the tub (Fig. 1, ref. 28 and col. 2, line 20) before permeating water into contaminants, which permeation will begin upon the supply of the water. Sharpe does not explicitly teach using an oxygen group bleaching agent. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an oxygen bleaching agent because oxygen group agents are conventionally known bleaching agents (see, for example, US 4,618,444 to Hudson, et al. at col. 2, lines 24-32, which teaches a laundry detergent with a peroxygen bleaching agent).

Regarding claim 18, Sharpe discloses introducing a disinfectant (col. 4, lines 11-16) but does not explicitly teach introducing a fungicidal agent. However, It would have been obvious to one of ordinary skill in the art at the time of the invention to use a fungicidal agent in the method as per Sharpe because these agents are conventionally

used to enhance cleaning (see, for example, US 6,530,384 to Meyers, et al. at col. 5, lines 42-44), which teaches a cleaning solution comprising a fungicide).

Regarding claim 20, Sharpe discloses displaying a “sanitize” cycle (Fig. 2, see bold arrow below, and col. 4, lines 11-14), or tub cleaning course, which is under progress on a display of the washing machine during tub cleaning.

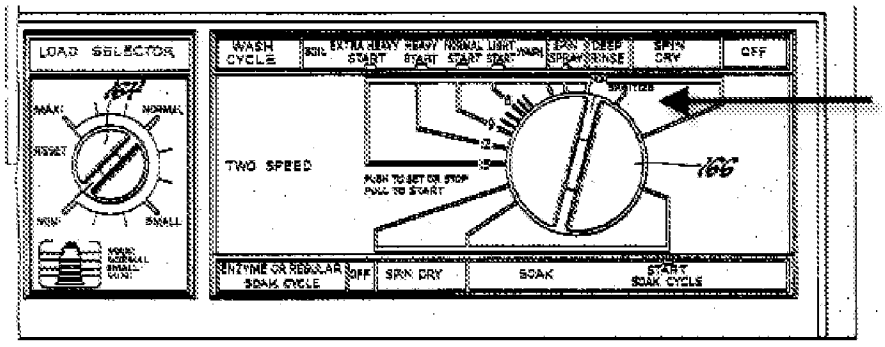

Fig. 2

Regarding claims 21-26, Sharpe does not explicitly teach displaying an accumulated number of washing courses performed by the washing machine after the tub cleaning on a display of the washing machine. However, It would have been obvious to one of ordinary skill in the art at the time of the invention to display the washing courses as claimed in the method as per the Sharpe teaching because it is conventional to display the accumulated number of processes completed since a reset (see, for example, US 2002/0128729 to Blair, et al. at [0037] which teaches a laundry machine control system wherein the total number of times a cycle has been activated since the counts were last cleared is displayed).

Regarding claims 22-25, Sharpe does not explicitly teach displaying a target number of washing courses to be performed by the washing machine before the next tub cleaning on a display of the washing machine. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to display the target number when using the method as per the Sharpe teaching in order to enhance an operator's ability to ensure that the cleanings occur in a timely manner.

Regarding claim 23 specifically, Sharpe does not explicitly teach that the target number can be changed. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a changeable target number with the method as per the Sharpe teaching in order to fine tune the cleaning process.

Regarding claim 24 specifically, Sharpe discloses a tub cleaning step wherein a user manually selects a tub cleaning course (col. 4, lines 11-18) but does not explicitly teach selection of a tub cleaning course when the accumulated number of washing courses reaches the target number. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to select of the tub cleaning course upon reaching the target number in the method as per the Sharpe teaching in order to ensure the cleanliness of the tub.

Regarding claim 25 specifically, Sharpe does not explicitly teach automatic performance of the tub cleaning steps when the accumulated number of washing courses reaches the target number. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the method as per the

Sharpe teaching in this manner in order to inhibit the likelihood that the cleaning will be neglected due to operator error.

Regarding claim 26 specifically, Sharpe discloses a step wherein a user manually selects a tub cleaning course (col. 4, lines 11-18) but does not explicitly teach setting a mode where a user manually selects a tub cleaning course when the accumulated washing courses performed by the washing machine displayed reaches a target number of washing courses to be performed before the next tub cleaning. However, It would have been obvious to one of ordinary skill in the art at the time of the invention to use such a manual mode with the method as per the Sharpe teaching in order to allow for operator override in case of an automation problem.

Regarding claim 27, Sharpe does not explicitly teach setting a time to automatically perform a tub cleaning at the washing machine. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the method of the Sharpe teaching in this manner in order to inhibit the likelihood that the cleaning will be neglected due to an operator's forgetfulness.

Regarding claim 28, Sharpe does not explicitly teach setting a mode where tub cleaning automatically progresses. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to automate the method as per the Sharpe teaching in this manner in order to free up an operator who would otherwise be needed to manually perform the cleaning. See MPEP 2144.04(III).

Regarding claim 29, Sharpe discloses spinning, or rotating, a tub (col. 6, lines 6-11), which forms a water circulation. It is noted that contaminants will be separating while rotating the tub per Sharpe.

Regarding claim 30, Sharpe does not explicitly teach rotating the tub at high speed. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use high speed rotation in the method as per the Sharpe teaching in order to provide increased agitation for cleaning. It is noted that contaminants will be separating and water will be circulating in a radial direction in the tub while rotating at high speed in the method as per the Sharpe teaching.

4. Claims 7, 10, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharpe (US 3,770,376) in view of KR 20010093969 to Kim (hereinafter "Kim").

Sharpe discloses rotating an agitator (col. 4, lines 25-30) but does not explicitly teach that the agitator used is a pulsator, permeating by rotating a pulsator provided in the tub for forming a water circulation, or rotating the tub at high speed. However, Kim teaches a washing machine tub cleaning method wherein a water current is made to rise along the tub wall due to a rotating pulsator, which reads on a pulsator forming water circulation. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the use of the rotating pulsator as per the Kim teaching in the method as per the Sharpe teaching because affecting a water current in this manner increases agitation, enhancing the cleaning process. Moreover, the skilled

artisan would have found it obvious to use high speed rotation in the method as per the Sharpe/Kim teachings in order to provide a greater driving force for permeation and agitation for separation.

5. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharpe (US 3,770,376) in view of JP 2002346288 to Iwai, et al. (hereinafter "Iwai").

Sharpe does not explicitly teach the use of a sterilizing agent which is a halogenated hydantoin compound that emits hypohalogenated acid. However, Iwai teaches a method of using a washing machine including a housing unit for use with a sterilizing agent which includes a hydantoin halide compound for releasing a hypohalogenic acid by water contact, which reads on the halogentated hydantoin compound. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the hydantoin compound of the Iwai teaching with the method as per the Sharpe teaching in order to inhibit bacteria growth and sanitation problems.

Response to Amendment

6. The objections to claims 7, 27 and 31 are withdrawn in view of the amendments in the response dated March 12, 2008.

7. The 35 USC § 112, second paragraph, rejections of claims 21-26 are withdrawn in view of the amendments in the response dated March 12, 2008.

Response to Arguments

8. Applicant's arguments, see page 11, seventh paragraph, to page 12, third paragraph, filed February 29, 2008, with respect to the rejection(s) of claim(s) 1-35 under 35 USC § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference Sharpe (US 3,770,376). See supra discussion under "Claim Rejections - 35 USC § 103."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,927,309 to Hoover, et al. discloses a method of using a warewashing apparatus including soaking for a predetermined time. US 6,569,261 to Aubay, et al. discloses use of cleaning composition comprising a fungicide.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Golightly whose telephone number is (571) 270-3715. The examiner can normally be reached on Monday to Thursday, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571) 272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EWG

/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792